

WHAT IS CLAIMED IS:

1. A vehicle side panel storage box assembly comprising:  
a mounting structure having a bottom support portion, a pair of side portions  
extending upwardly from opposite ends of the bottom support portion and a pair of  
5 mounting portions extending outwardly from the side portions;  
a compartment having a wall structure defining a box with an access opening, the  
compartment being fixedly coupled to the mounting structure between the bottom support  
portion and the side portions; and  
a side panel door movably arranged between a closed position overlying the access  
10 opening of the compartment to an open position exposing the access opening of the  
compartment, the side panel door having an exterior surface panel configured and  
arranged to form an exterior of a vehicle body side panel.
2. The vehicle side panel storage box assembly according to claim 1, wherein  
15 the side panel door is pivotally coupled to the mounting structure by a hinge  
assembly that is mounted between the mounting structure and the side panel door.
3. The vehicle side panel storage box assembly according to claim 2, wherein  
the hinge assembly has a lower horizontally arranged pivot axis configured and  
20 arranged to pivot the side panel door downwardly relative to the compartment when  
moved from the closed position to the opened position.
4. The vehicle side panel storage box assembly according to claim 3, further  
comprising  
25 a stay member having a first end coupled to the mounting structure and a second  
end coupled to the side panel door, the stay member being located outside of the  
compartment and configured to limit downward movement of the side panel door.
5. The vehicle side panel storage box assembly according to claim 4, wherein  
30 the stay member is a cable stay that is completely covered by the side panel door  
when the side panel door is in the closed position.

6. The vehicle side panel storage box assembly according to claim 1, wherein the compartment is primarily constructed of a non-metallic material and the mounting structure is primarily constructed of a rigid metallic material.

5 7. The vehicle side panel storage box assembly according to claim 1, wherein the exterior surface panel of the side panel door has a front edge, an upper edge, a rear edge and a lower edge with the upper and lower edges extending substantially horizontally and the front and rear edges extending between the upper and lower edges.

10 8. The vehicle side panel storage box assembly according to claim 7, further comprising  
a stay member having a first end coupled to the mounting structure and a second end coupled to the side panel door, the stay member being located outside of the compartment and configured to limit downward movement of the side panel door.

15 9. The vehicle side panel storage box assembly according to claim 8, wherein the front edge has a concaved arc shape that defines a portion of a side body wheel opening.

20 10. The vehicle side panel storage box assembly according to claim 7, wherein the front edge has a concaved arc shape that defines a portion of a side body wheel opening.

25 11. The vehicle side panel storage box assembly according to claim 1, wherein the side panel door includes a latching member and the mounting structure includes a latch member that is arranged to cooperate with the latching member of the side panel door to retain the side panel door in the closed position.

30 12. The vehicle side panel storage box assembly according to claim 11, wherein  
the latching member includes a lock cylinder and a lock cylinder cover.

13. The vehicle side panel storage box assembly according to claim 12,  
wherein

the lock cylinder cover is arranged to pivot relative to the side panel door between  
a covering position overlying the lock cylinder and an uncovered position exposing the  
5 lock cylinder.

14. The vehicle side panel storage box assembly according to claim 13,  
wherein

the lock cylinder cover is biased to the covering position by a biasing element.  
10

15. The vehicle side panel storage box assembly according to claim 14,  
wherein

the lock cylinder cover includes a sealing member that is configured and arranged  
to protect the lock cylinder from contaminates.  
15

16. A vehicle side panel storage box assembly comprising:

a mounting structure having a bottom support portion, a pair of side portions  
extending upwardly from opposite ends of the bottom support portion and a pair of  
mounting portions extending outwardly from the side portions;  
20 a compartment having a wall structure defining a box with an access opening, the  
compartment being fixedly coupled to the mounting structure between the bottom support  
portion and the side portions; and  
a side panel door pivotally mounted to the mounting structure between a closed  
position overlying the access opening of the compartment to an opened position exposing  
25 the access opening of the compartment.

17. The vehicle side panel storage box assembly according to claim 16,  
wherein

the side panel door is pivotally coupled to the mounting structure by a hinge  
30 assembly that is mounted between the mounting structure and the side panel door.

18. The vehicle side panel storage box assembly according to claim 17,  
wherein

the hinge assembly has a lower horizontally arranged pivot axis configured and  
arranged to pivot the side panel door downwardly relative to the compartment when  
5 moved from the closed position to the opened position.

19. The vehicle side panel storage box assembly according to claim 18, further  
comprising

a stay member having a first end coupled to the mounting structure and a second  
10 end coupled to the side panel door, the stay member being located outside of the  
compartment and configured to limit downward movement of the side panel door.

20. The vehicle side panel storage box assembly according to claim 19,  
wherein

15 the stay member is a cable stay that is completely covered by the side panel door  
when the side panel door is in the closed position.

21. The vehicle side panel storage box assembly according to claim 16,  
wherein

20 the compartment is primarily constructed of a non-metallic material and the  
mounting structure is primarily constructed of a rigid metallic material.

22. The vehicle side panel storage box assembly according to claim 16,  
wherein

25 the side panel door has an exterior surface panel with a front edge, an upper edge, a  
rear edge and a lower edge with the upper and lower edges extending substantially  
horizontally and the front and rear edges extending between the upper and lower edges.

23. The vehicle side panel storage box assembly according to claim 22, further comprising

5 a stay member having a first end coupled to the mounting structure and a second end coupled to the side panel door, the stay member being located outside of the compartment and configured to limit downward movement of the side panel door.

24. The vehicle side panel storage box assembly according to claim 23, wherein

10 the front edge has a concaved arc shape that defines a portion of a side body wheel opening.

25. The vehicle side panel storage box assembly according to claim 22, wherein

15 the front edge has a concaved arc shape that defines a portion of a side body wheel opening.

26. The vehicle side panel storage box assembly according to claim 16, wherein

20 the side panel door includes a latching member and the mounting structure includes a latch member that is arranged to cooperate with the latching member of the side panel door to retain the side panel door in the closed position.

27. The vehicle side panel storage box assembly according to claim 26, wherein

25 the latching member includes a lock cylinder and a lock cylinder cover.

28. The vehicle side panel storage box assembly according to claim 27, wherein

30 the lock cylinder cover is arranged to pivot relative to the side panel door between a covering position overlying the lock cylinder and an uncovered position exposing the lock cylinder.

29. The vehicle side panel storage box assembly according to claim 28,  
wherein  
the lock cylinder cover is biased to the covering position by a biasing element.

5 30. The vehicle side panel storage box assembly according to claim 29,  
wherein  
the lock cylinder cover includes a sealing member that is configured and arranged  
to protect the lock cylinder from contaminates.

10 31. A vehicle structure comprising:  
a vehicle body having a floor panel, a side panel, a pair of lateral cross members  
fixedly coupled to a bottom surface of the floor panel; and  
a vehicle side panel storage box assembly coupled to the vehicle body, the vehicle  
side panel storage box assembly including  
15 a mounting structure having a bottom support portion, a pair of side portions  
extending upwardly from opposite ends of the bottom support portion and a  
pair of mounting portions extending outwardly from the side portions, the  
mounting portions being coupled to the lateral cross members;  
a compartment having a wall structure defining a box with an access opening,  
20 the compartment being fixedly coupled to the mounting structure between  
the bottom support portion and the side portions; and  
a side panel door movably arranged between a closed position overlying the  
access opening of the compartment to an opened position exposing the  
access opening of the compartment, the side panel door having an exterior  
25 surface panel that follows an exterior contour of the side panel.

32. The vehicle structure according to claim 31, wherein  
the side panel door is pivotally coupled to the mounting structure by a hinge  
assembly that is mounted between the mounting structure and the side panel door.

30

33. The vehicle structure according to claim 32, wherein  
the hinge assembly has a lower horizontally arranged pivot axis configured and  
arranged to pivot the side panel door downwardly relative to the compartment when  
moved from the closed position to the opened position.

5

34. The vehicle structure according to claim 33, further comprising  
a stay member having a first end coupled to the mounting structure and a second  
end coupled to the side panel door, the stay member being located outside of the  
compartment and configured to limit downward movement of the side panel door.

10

35. The vehicle structure according to claim 34, wherein  
the stay member is a cable stay that is completely covered by the side panel door  
when the side panel door is in the closed position.

15

36. The vehicle structure according to claim 31, wherein  
the compartment is primarily constructed of a non-metallic material and the  
mounting structure is primarily constructed of a rigid metallic material.

20

37. The vehicle structure according to claim 31, wherein  
the exterior surface panel of the side panel door has a front edge, an upper edge, a  
rear edge and a lower edge with the upper and lower edges extending substantially  
horizontally and the front and rear edges extending between the upper and lower edges.

25

38. The vehicle structure according to claim 37, further comprising  
a stay member having a first end coupled to the mounting structure and a second  
end coupled to the side panel door, the stay member being located outside of the  
compartment and configured to limit downward movement of the side panel door.

30

39. The vehicle structure according to claim 38, wherein  
the side panel of the vehicle body forms a first portion of a side body wheel  
opening, and

the front edge has a concaved arc shape that defines a second portion of the side body wheel opening.

5           40.     The vehicle structure according to claim 37, wherein  
the side panel of the vehicle body forms a first portion of a side body wheel opening, and  
the front edge has a concaved arc shape that defines a second portion of the side body wheel opening.

10           41.     The vehicle structure according to claim 31, wherein  
the side panel door includes a latching member and the mounting structure includes a latch member that is arranged to cooperate with the latching member of the side panel door to retain the side panel door in the closed position.

15           42.     The vehicle structure according to claim 41, wherein  
the latching member includes a lock cylinder and a lock cylinder cover.

20           43.     The vehicle structure according to claim 42, wherein  
the lock cylinder cover is arranged to pivot relative to the side panel door between  
a covering position overlying the lock cylinder and an uncovered position exposing the lock cylinder.

25           44.     The vehicle structure according to claim 43, wherein  
the lock cylinder cover is biased to the covering position by a biasing element.

            45.     The vehicle structure according to claim 14, wherein  
the lock cylinder cover includes a sealing member that is configured and arranged to protect the lock cylinder from contaminates.

30           46.     A vehicle structure comprising:  
a vehicle body having a floor panel, a side panel, first and second lateral cross members fixedly coupled to a bottom surface of the floor panel; and

a vehicle side panel storage box assembly coupled to the vehicle body, the vehicle side panel storage box assembly including

a mounting structure fixedly coupled to the first and second lateral cross members,

5 a compartment having a wall structure defining a box with an access opening, the compartment being fixedly coupled to the mounting structure, and a side panel door pivotally mounted to the mounting structure between a closed position overlying the access opening of the compartment to an opened position exposing the access opening of the compartment.

10